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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,717	10/30/2003	Paul G. D'Arcy	D'Arcy 16-2-7-8-1	8360

46900 7590 11/13/2006

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EXAMINER
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ABRAHAM, ESAW T

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/697,717	Applicant(s) D'ARCY ET AL.	
	Examiner Esaw T. Abraham	Art Unit 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **Response to the applicant's amendments**

Applicant's amendments, filed on 08/23/06, with respect to the rejection(s) of claim(s) 1-16 under 112, 2<sup>nd</sup> paragraph have been fully considered and the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under *35 USC § 101, Non Statutory*.

### **Claim status**

1. Claims **1-16** remain pending.

### ***Claim Rejections - 35 USC § 101, Non Statutory***

2. Claims **1-16** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter because: the claimed invention is directed to non-statutory subject matter.

#### **Claims 1, 9 and 16:**

The language of claim 1 "method and an apparatus for calculating a checksum for a data block comprising the steps of portioning the data block into N segments; comparing N to a number of segments and if N is less than or equal to the number of segments processing by the highest level reduction stage etc...." merely manipulates abstract idea or solves a purely mathematical problem without any limitation to practical application.

Claims **2-8** are at least rejected for their dependencies, directly or indirectly, on the rejected claim 1 above.

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Claims **10-15** are at least rejected for their dependencies, directly or indirectly, on the rejected claim 9 above.

**Allowable subject matter**

3. Claims **1-16** would be allowable if rewritten to overcome the claim objections and rejection(s) under 35 U.S.C. § 101, *Non Statutory* set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

4. Claims **1, 9 and 16** have been allowed.

The following is an examiner's statement for allowance:

**As per claims 1, 9 and 16:**

The prior art (Henrikson Dana, U.S. PN: 6,324,670) of record teach a method and apparatus for generating a checksum that minimizes the creation and manipulation of carry bits by allowing a "running sum" to expand into a register having a larger capacity than the size of the message segments being processed. A checksum generator includes at least one adding circuit for processing a given message in segments and associated with the adding circuit is a register for temporarily holding the running sum that is being calculated by the adding circuit. A register is twice the size of the message segments being processed and is segregated into a high order portion and a low order portion (see col. 1, lines 60-67).

The prior art (Van Meter, III, Rodney, U.S. PN: 6,964,008) of record teach a method of generating checksum values for data segments retrieved from a data storage device for transfer into a buffer memory. The method includes the steps of maintaining a checksum list comprising a plurality of entries corresponding to the data segments

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stored in the buffer memory, each entry being for storing a checksum value for a corresponding data segment stored in the buffer memory (see col. 1, lines 54-67).

However, the prior arts taken singly or in combination fail to teach, anticipate, suggest, or render obvious a computer-readable medium having stored thereon a method and plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to implement a method for calculating a checksum for a data block by reduction, the method comprising the steps of: (a) partitioning the data block into N segments of a data matrix, N an integer greater than one; (b) comparing N to a number of segments processed by each of at least two reduction stages, the at least two reduction stages arranged in a tree structure; (c) If N is less than or equal to the number of segments processed by a highest level reduction stage, then: (1 ) processing the data matrix with the lowest level reduction stage that can process the entire data matrix to generate a new data matrix, and (2) repeating step (c)1 for each subsequent new data matrix until two data segments remain; otherwise, if N is greater than the number of segments processed by the highest-level reduction stage, then: (3) dividing the data matrix into one or more portions; (4) processing one matrix portion with the highest-level reduction stage that can process the matrix portion to generate a new data matrix, (5) repeating steps (c)(1) and (c)(2) for each subsequent new data matrix of the one matrix portion until two data segments corresponding to the one matrix portion remain, (6) appending another portion of the data matrix to the two data segments corresponding to the one matrix portion, and (7) repeating step (c) until

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no matrix portions remain; and(d) combining the remaining two data segments to provide a result. Consequently, claims 1, 8 and 16 are allowed over the prior art.

Claims 2-8, which are directly or indirectly dependents of claim 1 are also allowed.

Claims 10-15, which are directly or indirectly dependents of claim 9 are also allowed.

### CONCLUSION

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US PN: 6,591,397 Henrikson, Dana M

US PN: 6,968,498 Pal, Suprio

US PN: 6,964,008 Van Meter, III, Rodney

US PN: 6,643,821 Karim et al.

US PN: 6,412,092 Raghunath, Balakrishna

US PN: 6,324,670 Henrikson, Dana M.

6. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers

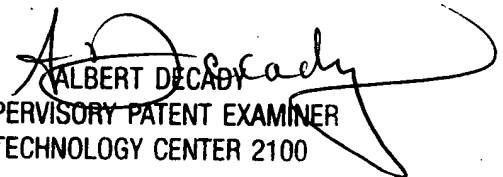
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for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for after final communications.

Information regarding the status of an Application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or PUBLIC PAIR. Status information for unpublished applications is available through Private Pair only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Esaw Abraham

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